Fall Invaders

Weather

October continued with warmer than normal temperatures and a persistent drought pattern. Despite the small bit of frost on the pumpkin this morning (10/30), most areas of the state will still end up about 2 – 4 degrees above normal for the month. This relatively warm air was joined with well below normal rainfall, with many areas not even receiving a full inch of rainfall in October. Typically, Missouri receives approximately 3.5” of October rainfall, so only 50% or less of normal has fallen in the region.

With the preceding dry September, much of Missouri and Kansas is still embroiled in an abnormal or moderate drought (http://droughtmonitor.unl.edu). A potential trick-or-treat wrecking storm is headed our way tonight and tomorrow which will help, along with some higher chances for rainfall for the early portion of November (see below – I would prefer it to be a deeper shade of green). Non-irrigated grasses have gone dormant in many parts of the state and will need this rainfall and perhaps then some to get back to green before winter hits. If you do have irrigation, it may be wise to hold off perhaps a bit longer than usual to winterize or blow out the system. Warm temperatures are expected to continue into November, and a splash of water may be necessary to ensure turfgrasses aren’t too dry and predisposed to desiccation heading in to the winter season. In addition, our 2” soil temperatures around the state are still in the mid to lower 50s, so any single, unsustained frost event presumably won’t do much damage. Bob Vavrek, USGA regional director of the Central region, wrote an article about this subject in the recent Green Section Record, which can be found here – “Don’t Jump the Gun”.

To further aid in planning when to winterize, Dr. Pat Guinan has just published a guide of Frost/Freeze Probabilities for Missouri. With recent (1981-2010) and further archived data (1895 on) he’s produced maps and tables to point out median dates and extreme dates.
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Extended Fall Continues
A. Probable temperatures over the first part of November are above normal. - Source: NOAA CPS
B. Potentially above normal rainfall, but a darker shade of green would be preferable. - Source: NOAA CPS

Quick Hits:

Take-all Patch Infection
A. Dark rhizome and roots of symptomatic bentgrass.
B. Dark brown, ectotrophic hyphae and simple lobed hyphopodia.

A few instances of take-all patch on bentgrass have been observed coming into the lab during early and mid October. We tend to always see this pathogen associated with roots during the season, and considerable microscopic evidence is necessary before I call this disease the sole cause of decline. In the most recent case, the putting green was only two-years old, (and therefore more susceptible), no effective fungicides had been applied or watered-in for the previous month, and the infection wasn’t just in the roots but was also in
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stolons and crown tissue. Acidifying fertilizers, such as ammonium sulfate, have been reported to suppress this disease on sand-based putting greens in some research, but have offered little consistent benefit in other research (GCM Article – Latin, February 2005), particularly compared to a fungicide treatment. In young greens, and those with a known history, fungicides in the DMI or QoI class should be applied during the spring and fall infection period (which is now).

Fall Anthracnose on Creeping Bentgrass

Anthracnose on bentgrass putting greens reared its ugly head often in late September through the first two weeks of October. We commonly find the pathogen on leaves “just nibbling”, but during cool early fall temperatures in Missouri it tends to go basal and sink its teeth in. Kind of like the KC Royals hanging around, consistently stringing together late inning hits, and all of the sudden it’s 7 – 1...

A combination of factors often cause these significant fall outbreaks on susceptible bentgrass cultivars (i.e. Penncross, Pennlinks, SR1020, etc). Bentgrass has already gone through a long summer, and is predisposed to infection. Additionally, and perhaps most importantly, anthracnose is a low nitrogen disease, preferring a nitrogen-starved plant. Therefore, when temperatures finally moderate and get back into bentgrass growing range, we may still be in spoonfeeding (~ 0.1 lb/week) mode and not quick enough on the draw to provide the plant with adequate nutrition. Also, a still summer-limited root system may not be able to take up enough nitrogen anyway to maintain adequate nitrogen levels, and cash the considerable check the foliage is trying to spend. Last, but not least, this September and October have been extremely dry, and anthracnose is more severe in these drought conditions.
Researchers at Rutgers University have written the book (or more literally the white paper, which can be found here – BMPs for Anthracnose Control) on control practices for anthracnose on annual bluegrass, which apply well to susceptible bentgrass cultivars. Suggested fungicide applications for curative control often center on mixing a contact (i.e. chlorothalonil or fluazinam), systemic (i.e. QoI, DMI, or combination) and a shot of nitrogen to facilitate recovery. New fungicides such as Briskway (QoI and DMI combo), Lexicon (QoI and SDHI combo), and Velista (SDHI = penthiopyrad) have reportedly worked well for anthracnose control in trials. These new tools are important since field resistant populations of the anthracnose pathogen have been detected to the QoI and benzimidazole fungicide classes.

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